



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,162	01/18/2002	Siu Choon Ng	4810-62169	5351

7590 04/01/2004

KLARQUIST SPARKMAN, LLP
One World Trade Center
Suite 1600
121 S. W. Salmon Street
Portland, OR 97204

EXAMINER

THERKORN, ERNEST G

ART UNIT	PAPER NUMBER
----------	--------------

1723

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/054,162	Applicant(s) NG ET AL.	
	Examiner Ernest G. Therkorn	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-40 and 44-67 is/are pending in the application.
- 4a) Of the above claim(s) 38-40, 46, 47 and 55-67 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-37, 44, 45, and 48-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 35-37, 44, 45, and 48-54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support for "amino" can be found. Page 3, lines 8, 18, and 27 of the specification discloses use of "imino." As such, "amino" is considered to be new matter.

Claims 35-37, 44, 45, and 48-54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support for "reactive" can be found. No support for each "saccharide bearing one or more pendent reactive electrophilic moieties or nucleophilic moieties." Accordingly, the claims are considered to be drawn to new matter.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 1723

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 35-37, 44, 45, and 48-54 are rejected under 35 U.S.C. 102(B) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ng (U.S. Patent No. 6,017,458). The claims are considered to read on Ng (U.S. Patent No. 6,017,458). However, if a difference exists between the claims and Ng (U.S. Patent No. 6,017,458), it would reside in optimizing the elements of Ng (U.S. Patent No. 6,017,458). It would have been obvious to optimize the elements of Ng (U.S. Patent No. 6,017,458) to enhance separation.

Claims 35-37, 44, 45, and 48-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto (U.S. Patent No. 5,639,824) in view of each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500). At best, the claims differ from Okamoto (U.S. Patent No. 5,639,824) in reciting fully functionalized. Ng (U.S. Patent No. 6,017,458) (column 4, lines 1-7) and Cabrera (U.S. Patent No. 5,104,547) (column 3, lines 48-55) disclose capping to block hydroxyl groups. Abbott (U.S. Patent No. 4,298,500) (column 8, lines 49-56) discloses capping the remaining available sites allows for separation of specific biomolecules. It would have been obvious to cap in Okamoto (U.S. Patent No. 5,639,824) either because Ng (U.S. Patent No. 6,017,458) (column 4, lines 1-7) and Cabrera (U.S. Patent No. 5,104,547) (column 3, lines 48-55) disclose capping to block hydroxyl groups or because Abbott (U.S. Patent No. 4,298,500) (column 8, lines 49-56) discloses capping the remaining available sites allows for separation of specific biomolecules.

Claims 36, 37, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto (U.S. Patent No. 5,639,824) in view of each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) as applied to claims 35-37, 44, 45, and 48-54 above, and further in view of Ng (U.S. Patent No. 6,017,458). The claims differ from Okamoto (U.S. Patent No. 5,639,824) in view of each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) in reciting silyl moieties and use of an amine linkage. Ng (U.S. Patent No. 6,017,458) (column 2, lines 10-19; column 2, line 60-column 3, line 6; and column 3, lines 41-51) discloses forming a silane derivative that results in a product that is universally applicable to HPLC, LC, TLC, and CLE. It would have been obvious to use silyl moieties in Okamoto (U.S. Patent No. 5,639,824) in view of each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) because Ng (U.S. Patent No. 6,017,458) (column 2, lines 10-19; column 2, line 60-column 3, line 6; and column 3, lines 41-51) discloses forming a silane derivative that results in a product that is universally applicable to HPLC, LC, TLC, and CLE.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto (U.S. Patent No. 5,639,824) in view of each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) as applied to claims 35-37, 44, 45, and 48-54 above, and further in view of Armstrong (U.S. Patent No. 5,964,996). At best, the claim differs from Okamoto (U.S. Patent No. 5,639,824) in view of each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S.

Art Unit: 1723

Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) in reciting use of an amine. Armstrong (U.S. Patent No. 5,964,996) (column 7, lines 27-29) discloses that ether and amines are interchangeable linking agents. It would have been obvious to use an amine in Okamoto (U.S. Patent No. 5,639,824) in view of each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) because Armstrong (U.S. Patent No. 5,964,996) (column 7, lines 27-29) discloses that ether and amines are interchangeable linking agents.

Claims 35-37, 44, 45, and 48-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konig (U.S. Patent No. 5,198,429) in view of Okamoto (U.S. Patent No. 5,639,824) and each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500). At best, the claims differ from Konig (U.S. Patent No. 5,198,429) in reciting fully functionalized and use of an ester or carbamate linkage. A fair reading of column 1, lines 63-67 and column 2, line 65-column 4, line 56 of Okamoto (U.S. Patent No. 5,639,824) would indicate that ester, carbamate, and ether linkages are interchangeable. Ng (U.S. Patent No. 6,017,458) (column 4, lines 1-7) and Cabrera (U.S. Patent No. 5,104,547) (column 3, lines 48-55) disclose capping to block hydroxyl groups. Abbott (U.S. Patent No. 4,298,500) (column 8, lines 49-56) discloses capping the remaining available sites allows for separation of specific biomolecules. It would have been obvious to use a carbamate or ester linkage in Konig (U.S. Patent No. 5,198,429) because a fair reading of column 1, lines 63-67 and column 2, line 65-column 4, line 56 of Okamoto (U.S. Patent No. 5,639,824) would indicate that ester, carbamate, and ether linkages are interchangeable. It would have

been obvious to cap in Konig (U.S. Patent No. 5,198,429) either because Ng (U.S. Patent No. 6,017,458) (column 4, lines 1-7) and Cabrera (U.S. Patent No. 5,104,547) (column 3, lines 48-55) disclose capping to block hydroxyl groups or because Abbott (U.S. Patent No. 4,298,500) (column 8, lines 49-56) discloses capping the remaining available sites allows for separation of specific biomolecules.

Claims 36, 37, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konig (U.S. Patent No. 5,198,429) in view of Okamoto (U.S. Patent No. 5,639,824) and each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) as applied to claims 35-37, 44, 45, and 48-54 above, and further in view of Ng (U.S. Patent No. 6,017,458). The claims differ from Konig (U.S. Patent No. 5,198,429) in view of Okamoto (U.S. Patent No. 5,639,824) and each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) in reciting silyl moieties and use of an amine linkage. Ng (U.S. Patent No. 6,017,458) (column 2, lines 10-19; column 2, line 60-column 3, line 6; and column 3, lines 41-51) discloses forming a silane derivative that results in a product that is universally applicable to HPLC, LC, TLC, and CLE. It would have been obvious to use silyl moieties in Konig (U.S. Patent No. 5,198,429) in view of Okamoto (U.S. Patent No. 5,639,824) and each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) because Ng (U.S. Patent No. 6,017,458) (column 2, lines 10-19; column 2, line 60-column 3, line 6; and column 3, lines 41-51) discloses forming a silane derivative that results in a product that is universally applicable to HPLC, LC, TLC, and CLE.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konig (U.S. Patent No. 5,198,429) in view of Okamoto (U.S. Patent No. 5,639,824) and each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) as applied to claims 35-37, 44, 45, and 48-54 above, and further in view of Armstrong (U.S. Patent No. 5,964,996). At best, the claim differs from Konig (U.S. Patent No. 5,198,429) in view of Okamoto (U.S. Patent No. 5,639,824) and each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) in reciting use of an amine. Armstrong (U.S. Patent No. 5,964,996) (column 7, lines 27-29) discloses that ether and amines are interchangeable linking agents. It would have been obvious to use an amine in Konig (U.S. Patent No. 5,198,429) in view of Okamoto (U.S. Patent No. 5,639,824) and each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) because Armstrong (U.S. Patent No. 5,964,996) (column 7, lines 27-29) discloses that ether and amines are interchangeable linking agents.

Claims 38-40 and 46-47 have been withdrawn as being drawn to non-elected species.

Claims 55-59 have been withdrawn as being drawn to a non-elected invention.

Claims 60-67 have been withdrawn from consideration as being drawn to non-elected species. They do not read on the elected species of "cyclodextrin."

The remarks urge the reaction on page 10 of the specification supports the term "amino." However, page 10, lines 13-14 of the specification indicates that the attachment is by "imino" linkages.

The remarks urge that each of Ng (U.S. Patent No. 6,017,458)'s saccharides do not have a pendent electrophilic or nucleophilic moiety. However, Ng (U.S. Patent No. 6,017,458) on column 3, lines 18-20 and in Figure 1 shows that each saccharide is fully functionalized.

The remarks urge that Ng (U.S. Patent No. 6,017,458)'s pendent groups are not bound by carbamate, ester, or amino linkages. However, Ng (U.S. Patent No. 6,017,458) discloses use of carbamate and ester linkages in Figure 1. In line 4 of the Abstract, Ng (U.S. Patent No. 6,017,458) discloses urethane linkages.

The remarks urge that Okamoto (U.S. Patent No. 5,639,824) does not have "saccharide bearing one or more pendent reactive electrophilic moieties or nucleophilic moieties." However, Okamoto (U.S. Patent No. 5,639,824) would appear to disclose pendent reactive electrophilic moieties or nucleophilic moieties on column 3, line 35, column 4, lines 15 and 50 because the aromatic groups have chlorine groups.

The remarks urge patentability over Konig (U.S. Patent No. 5,198,429) based upon the use of an ester or carbamate linkage. A fair reading of column 1, lines 63-67 and column 2, line 65-column 4, line 56 of Okamoto (U.S. Patent No. 5,639,824) would indicate that ester, carbamate, and ether linkages are interchangeable. As such, it would have been obvious to use an ester or carbamate linkage in Konig (U.S. Patent No. 5,198,429) because a fair reading of Okamoto (U.S. Patent No. 5,639,824) of column 1, lines 63-67 and column 2, line 65-column 4, line 56 would indicate that ester, carbamate, and ether linkages are interchangeable.

The remarks urge that there is no motivation to use an amine linkage. However, Armstrong (U.S. Patent No. 5,964,996) (column 7, lines 27-29) discloses that ether and amines are interchangeable linking agents. It would have been obvious to use an amine in either Konig (U.S. Patent No. 5,198,429) or Okamoto (U.S. Patent No. 5,639,824) in view of each of Ng (U.S. Patent No. 6,017,458), Cabrera (U.S. Patent No. 5,104,547), and Abbott (U.S. Patent No. 4,298,500) because Armstrong (U.S. Patent No. 5,964,996) (column 7, lines 27-29) discloses that ether and amines are interchangeable linking agents.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is (703) 872-9306.

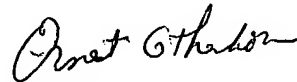
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 1723

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ernest G. Therkorn
Primary Examiner
Art Unit 1723

EGT
March 23, 2004